

Title (en)  
HALOGEN-FREE RESIN COMPOSITION AND USE THEREOF

Title (de)  
HALOGENFREIE HARZZUSAMMENSETZUNG VERWENDUNG DAVON

Title (fr)  
COMPOSITION DE RÉSINE NON HALOGÉNÉE ET SON UTILISATION

Publication  
**EP 3037479 A4 20170125 (EN)**

Application  
**EP 14882285 A 20140321**

Priority

- CN 201410051996 A 20140214
- CN 2014073846 W 20140321

Abstract (en)  
[origin: EP3037479A1] The present invention relates to a halogen-free resin composition, a prepreg and a laminate prepared therefrom. The halogen-free resin composition comprises, based on the weight parts of organic solids, (A) from 40 to 80 parts by weight of allyl-modified benzoxazine resin, (B) from 10 to 20 parts by weight of hydrocarbon resin, (C) from 10 to 40 parts by weight of allyl-modified polyphenyl ether resin, (D) from 10 to 20 parts by weight of allyl-modified bismaleimide resin, (E) from 0.01 to 3 parts by weight of an initiator, (F) from 10 to 100 parts by weight of a filler and (G) from 0 to 80 parts by weight of a phosphorus-containing flame retardant. The prepreg and laminate prepared from the halogen-free resin composition have lower dielectric constant and dielectric loss tangent value, higher peel strength, high glass transition temperature, excellent thermal resistance and better flame retardant effect.

IPC 8 full level  
**C08L 79/04** (2006.01); **C08K 3/00** (2006.01); **C08K 5/49** (2006.01); **C08L 25/10** (2006.01); **C08L 71/12** (2006.01); **C08L 79/08** (2006.01)

CPC (source: CN EP US)  
**B32B 5/022** (2013.01 - EP US); **B32B 5/024** (2013.01 - EP US); **B32B 5/26** (2013.01 - EP US); **B32B 7/10** (2013.01 - EP US); **B32B 15/08** (2013.01 - CN); **B32B 15/098** (2013.01 - EP US); **B32B 15/14** (2013.01 - EP US); **B32B 15/18** (2013.01 - EP US); **B32B 15/20** (2013.01 - CN EP US); **B32B 27/28** (2013.01 - CN); **C08G 14/06** (2013.01 - EP US); **C08G 14/12** (2013.01 - EP US); **C08K 3/00** (2013.01 - US); **C08K 3/36** (2013.01 - EP US); **C08K 5/14** (2013.01 - EP US); **C08K 5/49** (2013.01 - US); **C08K 5/5399** (2013.01 - EP US); **C08L 9/06** (2013.01 - EP US); **C08L 25/10** (2013.01 - EP US); **C08L 71/12** (2013.01 - EP US); **C08L 71/126** (2013.01 - EP US); **C08L 79/04** (2013.01 - CN US); **C08L 79/085** (2013.01 - EP US); **C09D 179/04** (2013.01 - US); **C09J 161/34** (2013.01 - EP US); **H05K 1/0298** (2013.01 - US); **H05K 1/0373** (2013.01 - US); **H05K 1/09** (2013.01 - US); **B32B 2260/021** (2013.01 - EP US); **B32B 2260/023** (2013.01 - EP US); **B32B 2260/046** (2013.01 - EP US); **B32B 2262/10** (2013.01 - EP US); **B32B 2262/101** (2013.01 - EP US); **B32B 2264/102** (2013.01 - EP US); **B32B 2307/204** (2013.01 - EP US); **B32B 2307/306** (2013.01 - EP US); **B32B 2307/732** (2013.01 - EP US); **B32B 2457/08** (2013.01 - CN EP US); **C08L 2201/02** (2013.01 - CN); **C08L 2201/08** (2013.01 - CN); **C08L 2201/22** (2013.01 - CN); **C08L 2203/20** (2013.01 - CN); **C08L 2205/02** (2013.01 - CN); **C08L 2205/025** (2013.01 - CN); **C08L 2205/035** (2013.01 - CN); **H05K 2201/012** (2013.01 - US); **H05K 2201/0355** (2013.01 - US)

C-Set (source: CN EP US)  
CN  
**C08L 79/04 + C08L 25/10 + C08L 71/12 + C08L 79/08 + C08L 85/02 + C08K 7/18**  
EP US  
**C09J 161/34 + C08K 3/36 + C08K 5/14 + C08K 5/5399 + C08L 9/06 + C08L 71/126 + C08L 79/085**

Citation (search report)

- [A] EP 2241589 A2 20101020 - GUANGDONG SHENGYI SCI TECH CO [CN]
- [A] CN 102161823 A 20110824 - GUANGDONG SHENGYI SCI TECH CO
- [A] EP 2657296 A1 20131030 - GUANGDONG SHENGYI SCI TECH CO [CN]
- [Y] US 2008171817 A1 20080717 - PETERS EDWARD NORMAN [US], et al
- [Y] WO 2013029271 A1 20130307 - GUANGDONG SHENGYI SCI TECH CO [CN], et al
- [A] EP 0352868 A1 19900131 - SHELL INT RESEARCH [NL]
- [Y] DATABASE WPI Week 201361, Derwent World Patents Index; AN 2013-K43178, XP002764790

Cited by  
EP3031863A4; US9840620B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3037479 A1 20160629; EP 3037479 A4 20170125; EP 3037479 B1 20190605**; CN 104845363 A 20150819; CN 104845363 B 20170405; KR 101781280 B1 20170922; KR 20150110741 A 20151002; TW 201531518 A 20150816; TW I506086 B 20151101; US 2016244611 A1 20160825; US 9771479 B2 20170926; WO 2015120653 A1 20150820

DOCDB simple family (application)  
**EP 14882285 A 20140321**; CN 2014073846 W 20140321; CN 201410051996 A 20140214; KR 20157022950 A 20140321; TW 103110690 A 20140321; US 201415027353 A 20140321